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Wildlife

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# Virginia Wildlife

*Dedicated to the Conservation of  
Virginia's Wildlife and Related Natural Resources  
and to the Betterment of  
Outdoor Recreation in Virginia*

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## FEBRUARY

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**COVER:** The great horned owl nests earlier than any other native species, laying and incubating in January, often hatching early in February. The fledglings shown on the cover were photographed by wildlife photographer and writer Leonard Lee Rue I.

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## Registration vs. Conservation

By JOHN MADSON and ED KOZICKY

MUCH is being made of the fact that Americans own more guns than any other people in the world.

At the same time, no one has bothered to mention that Americans also have the world's greatest wildlife conservation effort—and the wildlife to prove it.

If the indoor public has bothered to think about it at all, this appears to be a contradiction. But the fact is, millions of us have guns because we have wildlife, and wildlife because we have guns. Guns and wildlife are the Siamese twins of modern resource management. What happens, then, if they are separated by political surgery? What would be the effect of strict gun registration and licensing laws upon wildlife conservation?

Gun registration and licensing will discourage gun ownership, not because of cost, but because of the harassment that goes with it: fingerprinting, photographs, affidavits from doctors and police officers, frequent renewals of permits, separate permits for each gun, permits to buy ammunition, etc., etc.

As guns go, so goes hunting. And as hunting goes, so goes wildlife conservation as we know it.

Most of today's hunters are casual sportsmen who may hunt only on opening day or, at most, three or four days in a season. Come fall, they'd just as soon be doing something else. These sometimes hunters, faced with cumbersome gun registration and licensing, are likely to spend Saturday afternoon in front of TV.

Strict gun registration and licensing will eventually drive millions of these casual players out of the game. This would mean great losses in hunting license and fee revenues that are now earmarked for wildlife restoration. Since 1939, sportsmen have contributed over \$339,000,000 to federal aid in wildlife restoration through the famous Pittman-Robertson Program that is financed by an 11% federal excise tax on sporting arms and ammunition. In addition, millions of dollars in federal duck stamp receipts and state hunting license fees are used to finance state and federal wildlife conservation programs. No part of these wildlife programs are paid from any general tax funds, but are financed entirely by sportsmen.

Losing these millions in conservation revenue would be bad enough. But to make matters worse, most of this money would be lost to areas that can least afford to lose it—the densely populated areas that need all the wildlife conservation and public land they can get.

## LETTERS

### On Killing Bobcats

FOR the second time in recent years the *Daily Press* (Newport News) has printed a picture of a bobcat taken by a hunter. In spite of the continuing campaign toward conservation of the nation's wildlife, these animals, already few in number and presenting little threat to man or his property, are taken. We should guard the lives of these animals and others in the same circumstances by law and a stepped-up public educational program so that careless people will not be so eager to take the wildlife we cannot afford to lose.

Linda Hofler  
Newport News



Commission photo by Kesteloo

*Legally the bobcat in Virginia is designated as one of the "predatory or undesirable species" of wildlife. Predatory he is; undesirable he is not, at least in the numbers in which he exists in most localities. However, there probably are a good deal more bobcats running around than most people suppose, but because of their habits they are seldom seen. Availability of suitable habitat, rather than the few bobcats taken each year by hunters, seems to be the main factor limiting the species' numbers.—Ed.*

### Locked Antlers



HERE is a picture of two fine sets of white-tail antlers locked together. When found, the right antler tip of one buck had blood on it and the neck of the other buck was broken. These antlers were found in Frederick County.

Charles R. Lewis  
Winchester



# Big Levels - - A Game Management Laboratory

By J. E. THORNTON  
*Supervising Game Biologist*

TO the people of eastern Augusta County, Waynesboro, Staunton, and for that matter, many in far away places, the name "Big Levels" brings visions of days of happy hunting. Certainly, Big Levels is known far and wide for its contributions to the cooperative wildlife management program of the Virginia Commission of Game and Inland Fisheries and the U. S. Forest Service, and as a proving ground for new ideas in game management.

The Big Levels area occupies a unique place in game management in Virginia. It was here, back in 1938, that the cooperative program between the U. S. Forest Service and the Virginia Commission of Game and Inland Fisheries had its beginning. Initially, 4,000 acres of the present Big Levels area were set aside as a refuge known as the Big Levels State Game Refuge, administered by the Virginia Game Commission. On July 6, 1935, this area, with some additional 30,000 acres, was set aside as a national game refuge by Presidential proclamation to be known as "Big Levels Game Refuge" and to be administered by the U. S. Forest Service. From the lessons learned here, the cooperative wildlife program emerged, becoming effective in July 1938.

The Big Levels Refuge is located in the southeast corner of Augusta County and gets its name from a series of flat-topped ridges which form the main topographic features of the area. It is made up of a group of mountains somewhat isolated and to the west of the main Blue Ridge. The tops of the ridges are gently rolling or nearly level. The terrain becomes rugged, with steep and precipitous slopes just below the ridge tops. Barren rock slopes, talus slides, and large rock outcrops are numerous in the valleys. In the bottom of the valleys the terrain grades into moderate slopes and gradually merges into gently sloping, comparatively flat terrain which is appropriately known as the "flatwoods" section of the refuge. According to the best available information, the land that now comprises the refuge was the focal point of a highly prized Indian hunting ground and was considered by the native tribes to be endowed with an abundance of game.

The soil making up most of the Big Levels area is poor at best and the treatment it received prior to 1935 did not help matters. Much of the area is underlaid with limestone but the only evidence of this on the surface is an occasional "sink hole" in the flat woods section along the foot of the mountains. The limestone deposits are covered with rocks and rubble of sandstone origin which, thousands of years ago, eroded off the ridge tops.

The manufacture of charcoal on the area began around 1800 and continued until about 1865. There were at least five iron furnaces in the vicinity, and it took a lot of hardwood to produce enough charcoal to keep these furnaces going. What logging was done on the area was done before the Civil War, with very little since that time. After the iron furnaces closed down and charcoal was no longer needed, fires burned the area almost annually until about 1924. Thus, at the time the U. S. Forest Service came into possession of the land in 1935, almost no commercial timber remained on the area. The upper slopes and ridges supported a dense stand of bear oak interspersed with scattered stands of chestnut oak, and pitch and Virginia pine. The lower slopes and "flat woods" were made up of small pole-sized



Commission photo by Kesteloo

Big Levels was established as a game refuge over thirty years ago. Later the total ban on hunting was removed and today Big Levels is one of a number of wildlife management areas maintained cooperatively by the Virginia Commission of Game and Inland Fisheries and the National Forest Service.

stands of mixed hardwoods and pine.

Since its establishment as a game refuge in 1935, the area has received a considerable amount of attention from the high and the low. Any number of official parties of wildlife experts toured the area in the months and years soon after the refuge was proclaimed. Perhaps the most auspicious group to visit the area was made up of Dr. H. H. T. Jackson and Messrs. A. L. Nelson and Vernon W. Bailey, all with the U. S. Biological Survey, now the U. S. Fish and Wildlife Service. Others, including wildlife biologists and foresters from the U. S. Forest Service, various research units and Game Commissions, visited the area and made recommendations on how best to manage the area for wildlife. The recommendations made by the various groups basically were that a total of at least 5 percent of the total acreage be opened up by intensive clearing within 2 years and another five percent within the next 4 years, making a total of 10 percent, and that the openings thus made be developed with a view of maintaining them indefinitely as open fields and making them as attractive as possible to wildlife.

The development of clearings was begun in the fall of 1936, resulting in the establishment of approximately 200 clearings ranging in size from a fraction of an acre to nine acres. These clearings were seeded down to various grasses and lespedezas in an effort to establish a sod which would



require a minimum of maintenance and a maximum of benefits to wildlife. Hand labor was initially used, but before long the bulldozer took over. The goal of 10 percent of the area in clearings was never reached, nor even the goal of five percent, as it proved to be completely unrealistic because of the cost of clearing and development.

Ecological studies of those clearings then established were begun in 1938 and 1939. Those studies showed about what they were expected to show. Basically, this was that wildlife in general were attracted to openings and clearings for various reasons: dry mineral soil for dusting, gravel, succulent vegetation, and abundant insect populations. The more desirable wildlife food plants were found to be more abundant on clearings than in the forest and more abundant on the older clearings than the newer ones. Winter rosettes of such plants as asters, goldenrod, and wild strawberries, important winter foods for ruffed grouse and wild turkey, were more abundant in the older openings. Important fruit-producing plants like greenbrier and wild grape were found to be productive of fruit in the vicinity of openings. In practically all instances, the borders of the clearings developed a "plant mosaic," filling in with shrubs and vines and low-growth species at the edge of the forest, thus developing the "edge effect" so important to wildlife.

Since its establishment the Big Levels Refuge has been an area on which experimental regulations and management practices could be tried. Among the "firsts" claimed for the area was the first stocking of white-tailed deer in Virginia, the first "controlled hunt," the first "big game checking system" in Virginia, the first live-trapping of deer and wild turkey for stocking purposes in Virginia, and the first studies of the black bear which involved live trapping and tagging. Many of these "firsts" have since become routine for the rest of the state.

Today, the "Big Levels Federal Refuge" is no longer a

The goal of 10 percent of the area in wildlife clearings was never achieved. Today block clear cutting through timber sales is providing the deer browse and small game cover which the original hand cut clearings were designed to produce.



refuge in the strict sense of the word. Officially, it is known as "The Big Levels Wildlife Management Area." For the most part, seasons and bag limits are the same as those in surrounding counties. To the casual observer, the vegetation has changed little in the last 30 years. The "pole stands" of mixed hardwood and pine are still there. Growth has been extremely slow because of the poor soil and growing conditions. The bear oak stands on the tops of the ridges have changed little, except to be reduced in size because of the encroachment of chestnut oak and pitch pine. The intensive wildlife management program initiated in the late 1930's has been largely abandoned and replaced with the more economical program of manipulating the habitat through tim-



U. S. Forest Service photo

Some twenty years ago this old apple orchard on Big Levels was cleared in strips to provide a diversity of food and cover for wildlife.

ber sales. Many of the clearings established in the early days have been abandoned and have reverted to pine growth but some of the more fertile clearings are periodically reseeded, fertilized, and mowed to keep them productive. Several areas of up to 20 acres have been "pushed over" or "ridden down" with a bulldozer to provide deer browse and wildlife openings in areas which are considered noncommercial from a timber point of view. The Virginia Game Commission's biologists and game managers continue to work with the Forest Service in the wildlife management program here as on the rest of the National Forest lands in Virginia.

The Big Levels Refuge, like the rest of the National Forest in Virginia, is presently being converted to an "even-aged" system of timber management whereby timber is regenerated through clearcutting in blocks of 20 to 200 acres. In the past, markets for the pole-sized timber found on Big Levels have been limited. Clearcutting in relatively large blocks is making it possible to operate the timber found on Big Levels on an economical basis. As a result, the number of timber sales on Big Levels is increasing each year, thus providing much needed browse for deer and cover for other game species.

The last of the original herd of native deer on Big Levels were exterminated during a severe winter in the early 1890's. Restocking was begun in 1933, many of the deer being pur-

(Continued on page 23)



**I** MET my first black bear when I was nine.

It was a typical bruin encounter—four of the furry monarchs ambled from the woods and proceeded to crawl over, under and through our car while my parents and I watched helplessly from a river 50 yards away—but it was the beginning of my friendship with our largest game animal.

In the years since I've often wondered at the friendship. I've cursed at it and laughed at it, but never quite given up on it. I have stalked Mr. Bruin with gun and camera, and had him stalk me. He has come into my trail shelter with me, stolen my food, ripped my equipment and scared the daylight out of me. Through it all, our friendship has managed to survive.

How? Simple. I respect Mr. Bruin for what he is: unbelievably strong, unannily smart and absolutely unpredictable. Add to this an insatiable curiosity, a never-ending hunger and a natural sense of humor, and you have a picture of my friend, *Ursus euarctos americanus*.

## MY FRIEND THE BLACK BEAR

Text and photos by STEVE PRICE  
*Chapel Hill, N. C.*

The friendship nearly went on the rocks last summer, though, during a pack trip deep into the Great Smokies. My Indian guide and I rode into camp late one afternoon to discover our 50-pound pack of food missing.

Just outside our lean-to we found part of the supplies, two cans of beans, perforated by bear teeth. We trailed the culprit across a stream, through a laurel thicket and up the side of a mountain, finding small bits of ruined food along the way. It was not until we had nearly reached the top of the mountain that we found the pack—torn into shreds about the size of this magazine page. From then on, my guide and I were literally fishing for food rather than fishing for fun.

Bears will eat just about anything, judging from what we had in that pack, but their favorite foods are lush grasses, insects, grubs and fruit-bearing shrubs. Bears are usually

Strong, intelligent, and unpredictable.



Our friendship has managed to survive.

timid around human beings, too, but once Mr. Bruin finds a good grub-producing log, he may not be in much of a hurry to give it up, even if humans are around.

I discovered this while backpacking along the Appalachian Trail one June, when I stopped at a trail shelter to cook lunch. Six horsemen were just leaving as I arrived, but Mrs. Bruin and her cub, who were also present, showed not the least concern about the activity. Throughout my meal she stayed by her log, digging out the grubs.

Because bears have learned that where there are campers there is also food, they have learned to frequent certain popular camping grounds. This is where the bear-human friendship probably gets its severest test.

I remember a rainy night spent in conversation with a group of campers in Great Smoky Mountains National Park.

Where there are campers there is food, and this is where the bear-human relationship gets its severest test.





I was discouraged because I wanted to obtain some photographs of wild game, but had seen none, not even a bear.

"You'll get your photos if you camp at Derricks Knob," said one. "Up there last night one fellow tied his pack on a rope strung between two trees but a bear still managed to tear it down.

"The pack was about 15 feet off the ground, but around midnight the pesky critter climbed one of the trees and then leaped for the pack. The camper just watched from his bed-roll as the bear made shreds of his gear.

"Why, there's a regular junkyard of bear-wrecked packs at Derricks Knob," he continued. "More than one camper has lost his equipment there, because the bears think they own the place."

I don't know if the bears actually think in those terms, but



Sitting in the trail, waiting for me.

I do know I had one sitting in the trail waiting for me one afternoon as I hiked to a trail shelter. He watched attentively as I filled my canteen, cut wood for a fire, cooked supper and prepared for bed. I took some rocks into the shelter lean-to with me just in case Mr. Marauder decided to make a nightly nuisance of himself, but he did not, and by morning he had disappeared.

This curiosity in bears seems to have no end. At the finish of a long day of backpacking one summer, I was kneeling at a spring to wash off some of the trail dust. Looking up suddenly I discovered a black bear not 10 feet away, watching me with rapt attention. I dropped the towel and backed slowly to the shelter cabin, then watched as the bear began to thoroughly investigate my dropped towel.

That particular bear roamed near camp all afternoon, and expecting some nocturnal visit from him. I took some rocks to bed with me. The visit came at six a.m. when Mr. Bruin unwittingly stepped on a burned and flattened tin can I had left out for just such a purpose. A loud yell saved a week's food supply.



I discovered a black bear not 10 feet away, watching me with rapt attention.

Campers usually know when they are in bear country, either from the precautionary signs put up by rangers, by bear droppings, or by bear "trees." No one knows for sure the purpose of a bear "tree," but many believe it is simply a tree a bear has chosen to use for sharpening and cleaning his claws. It's not always a tree, though. I remember seeing a ranger's cabin where one entire corner had been raked into splinters when first one bear and then another had tried out his claws.

Camping in bear country has its adventures, to be sure, but a few precautions will insure an even more enjoyable time. Food kept high out of a bear's reach, a late-burning campfire during the night, and a few rocks kept within easy reach are just a few.

But perhaps the best precaution against the furry, four-footed camp robbers is common sense and respect. I know Mr. Bruin is stronger than I am, and in his own way he's smarter, too. And no matter how well I think I know him, I can never quite predict what he will do in a given instance.

That's why we're friends.

Bear country.





THE valley follows the magnetic line from north to south. The moon, topping the shoulder of the farther mountain, probed the shadows far below. The creek crossed and recrossed the valley floor, testing the mountain flanks as if it sought to escape from their confinement.

A flock of migrant geese, chanting in cadence, winged their way southward. They followed the valley floor as one follows a familiar landmark. Suddenly their rhythmic chant broke into excited gabblings. The waterway, no longer a ribbon of reflected light, spread into a pond that offered sanctuary. It drew them down. Warily they circled then coasted in to break the surface into waves that lapped against the banks.

A straggler landed last, splashing the water awkwardly. At dusk, a score of miles to the north, the flock had circled low to find a resting place. A poacher, hidden in a driftwood blind had fired twice. As the flock flared, one goose had plummeted to earth, another labored hard to keep its place but fell behind.

The cripple, having reached the security of the flock, rested, a little apart. The energy that had been spawned by flight had burned away. Blood welled from the deep shot wounds in stiffening muscles. It wet the down under the breast feathers and let in the water's chill. As the bird's strength ebbed, the head sank lower and lower. The eyes grew dim. The will to live was gone. . . .

To the west a sand spring bubbled from the base of the slope and nourished a shallow brook that found its way, down through the aspen grove until it joined the waters of the pond.

The frosty twilight called the beavers to activity. They left the lodge. The female and the young followed the male on an inspection tour of the dam. They turned away toward the alder thicket and began to cut brush. The male swam toward the mouth of the brook. An aspen stood a few yards from the pond. The chips that littered the ground and the deep notch in the trunk were the result of the previous night's work. The sharp nip in the air fostered an urgency that brooked no idleness.

Two weeks before, the first frost touched the valley floor. The aspens turned to gold. The maples flamed for a few brief days then dropped their leaves. The haze of Indian summer touched the distant hills. Fallen leaves drifted like miniature boats across the pond. The current drew them to the openings where water trickled through. Each night the beavers added sticks and mud to stop the leaks. The water level rose until it reached the top and overflowed.

The beaver climbed the bank to the aspen. For many minutes it sat motionless. Life around the dam flowed smoothly. A raccoon waded the spring brook, turning the stones as it hunted for crayfish. Cinnamon caddis worms trundled their pebbled cases across the sand. A pair of trout, moving in the shallows on their spawning run, eluded the raccoon and darted back toward the safety of deeper water. . . . A flight of woodcock drifted in to probe for worms among the alder clumps. A hunting mink loped along the bank then slipped into the water with barely a ripple. The restrained waters overflowed the banks and ran along the runways of the meadow mice causing them to seek other quarters on higher ground. . . .

Satisfied that all was well the beaver sat erect, bracing itself on the tripod of its hind legs and tail. It turned its head and sank its chisel-teeth into the wood at the upper edge of the previous night's cutting. After several bites it cut deeply into the wood below. It loosened both ends, then

## A bit of down

By ALBERT G. SHIMMEL  
*West Decatur, Pennsylvania*

tore away the chip and dropped it to the ground. Following this plan it cut chip after chip.

The clamor of a flock of geese reached the beaver's ears. He stopped his work and sat alert. The younger beavers, working at the dam, slapped the water with their tails and disappeared. When the flock had settled and their voices stilled, the beavers, reassured by the silence returned to their cuttings.

The aspen leaves that still clung to the tree, trembled as the male beaver tore each chip away. The remaining fibers stretched to the limit. A last chip and the tree began to sway. The beaver plunged into the water. . . . The tree crashed down. . . . It fell partly on land but with its crown splashing into the pond. . . .

The nervous geese, frightened by the unexpected noise, rose amid the confusion of flailing wings and fled toward the river, miles below. When they were gone, the beaver surfaced. It saw the wounded goose struggling vainly to follow. . . .

As silent as a breath of air, a shadow crossed the moon. It wheeled above the dying bird and slanted down. The sharp black talons closed. With all its energy the great owl sought to lift its kill but failed. It struggled, dragging the heavy weight. Beside a tangled mass of drift the owl released its burden. It perched on a projecting root, shook itself to settle its plumage then reached out and pulled the goose ashore. The curved bill stripped away the feathers and cut into the flesh.

The beaver swam toward the fallen aspen. It was aware of the aroma of death that flowed along the water. Its keen nose recorded the compounded odors of flesh, blood and the acrid skunk musk that clung to the owl's feathers. Although they were distasteful, they held no menace.

The beaver went about his work. He cut branch after branch to add to the underwater cache that would sustain the colony through the winter.

The owl, fed to repletion, then flew away. It hid in a clump







of mature pines that grew among the hardwoods on the slope. This winter day roost had been chosen because it hid him safely from the prying eyes of crows.

The moon was past the zenith of its climb when the mink returned. A single mouse had been its only kill. Its hunger was a restless thing. . . . He climbed upon the dam and sniffed the air. His was a bold aggressiveness tempered by caution. . . .

He had occupied the range that included the pond for several years. As a young adult compelled by wanderlust he left rocky, river ledge. He found the pond. It had been much smaller then, little more than a widening of the creek. Mice abounded along the sedge grown banks. The water held fish for the catching. It was an ideal range.

With the arrogance of newly acquired adulthood added to his above average size, he claimed it for his own. True he was an interloper. He did not seek the fight but when it came, he did not hesitate. It ended when the other had been soundly drubbed and driven off.

He slipped into the water. Occasionally he surfaced to catch the thread of scent that lured him on. He came at last to the underwater entrance of a muskrat's tunnel. This was a familiar way. A year before he had killed the rat as it slept in its dry nest chamber above. When he reached the nest he did not hesitate. An exit tunnel opened under the protection of the driftwood. The partly eaten goose lay just beyond.

Although his hunger was a driving urge he remained where he was until the moon had crossed the valley and its shadow darkened the pond. Only then he pulled the carcass under the pile of drift and feasted until his hunger eased.

When the meal was finished he gathered feathers and

carried them into the nesting chamber and added them to the leaves and grass already there. When he had completed his task he curled up to rest. Before the dawn he roused. The restless vitality that was part of his nature fired him to action. He yawned, sneezed to clear his nose and emerged from his burrow. He sniffed with distaste at the now cold flesh, then turned and loped away.

He followed the margin of the pond until he reached the creek. A mile above he surprised a red squirrel as it stored cones on its midden at the edge of a hemlock thicket. Minutes later he carried the limp body into another den within a hollow maple trunk.

When darkness came again the raccoon descended from his den in a high oak. He stood quietly as he listened and tested the air. It nosed among the fallen leaves and ate some acorns. At the edge of the bench where grapevines hung in festoons from the branches, he climbed a leaning maple and ate several clusters of the frost-nipped fruit. There was little substance in such food, so he quickened his pace toward the water. Where the spring brook mingled with the darker waters of the pond he drank his fill. A fallen chestnut snag formed a convenient lookout. He had barely climbed to the vantage point of a projecting limb when his nose turned in the direction of the driftwood. He sniffed eagerly, then climbed down and set off in the direction of the seductive smell. He traveled at a lumbering gallop until he approached the vicinity of the wood, then circled warily. Finding sufficient opening he crawled under its protection. The smell of the owl, the mink, some mice and a shrew clung to the place. His keen nose assured him that he could feast in privacy. Occasionally a bit of down was drawn into his nostrils, causing him to sneeze vigorously.

The owl drifted in, only to find his kill had been confiscated and was beyond his reach. He spread his wings and popped his bill angrily, but the raccoon replied with growls and churrings. The advantage of protective position was with the animal, and so the owl finally set off to find other prey.

When the raccoon stole away into the protective darkness that preceded the dawn, little remained of the goose but scattered feathers and well picked bones.

With the waning moon the cold tightened its grip on the valley. Fingers of ice crept out from the shallows toward the open water until only the channel remained open.

White-footed mice, preparing winter nests, discovered the feathers. Well worn trails began to radiate in all directions. The unexpected treasure was carried away. Even the bones, rich in the minerals that the rodents craved, were scored by many teeth.

A shrew, driven by the scarcity of prey to extend its range, discovered the driftwood tangle with its runways. Ferocious as a tiger on the prowl, he caught a mouse. Although he was the smaller of the two, he bit and held. His teeth sank deep. The poisonous secretions of its salivary glands soon did the work. Before the moon had set the mouse was devoured and the shrew was hungry again.

The pattern was set. Mouse after mouse was killed. One night while struggling with one stronger than the others they rolled into the open. The cruising owl caught both. . . .

The winter came and passed and with the strengthening light the flight of geese moved north, toward the nesting grounds. They saw the beaver pond and slanted in to rest. The cosmos that was the pond and valley appeared but little changed. A vagrant breeze picked up a bit of down beside the tangled drift and tossed it playfully.



# DEAD DEER DO TALK

By JAMES T. DWYER

Graduate Student, VPI Dept. of Forestry & Wildlife

REMEMBER that scene from a Grade B detective thriller? You know, where the police find the sprawled corpse of another innocent victim of The Strangler in the abandoned warehouse. The police are baffled, but the brilliant young detective hero alone notices a faint lingering aroma. Upon closer inspection of the body, our hero notices that the index finger of the victim trails from the last of three letters crudely scrawled in the dust: D....U....E. "Aha!" shouts the detective; "These letters refer to *Desire Under The Elms*, an expensive men's cologne sold only at Finkle's Department Store!" Subsequent interrogation of Finkle's personnel leads to the arrest of Strom Strongfingers. Strom is convicted, the detective hero gets a raise, and everyone (except Strom) lives happily ever after.

Very interesting, you say, but unrealistic. Very rarely do dead men "talk" about the crimes committed against them. And if dead men don't talk, how can anyone expect a dead deer to say anything?

Fortunately for game managers, however, dead deer can tell plenty about the "crimes" of overpopulation and overbrowsing which deer all too frequently commit against themselves. There are several known languages which deer use to tell us of the condition of their habitat, and the manager must understand them all.

Before we can investigate the methods of crime detection, we must understand the crimes. Remember that deer usually exhibit their productivity through population numbers rather than through the weight of individual deer. Overpopulation exists when there are on an area more deer than the area can support. The cause of overpopulation is frequently a succession of several mild winters characterized by survival of many deer which normally would have died. Overpopulation can lead to overbrowsing, which is the browsing of woody vegetation to the point where the browsed plants are slow to or cannot recover. Severe overbrowsing can permanently destroy a range.

Now we can turn to our methods of crime detection. Probably the earliest used method of range evaluation was the average animal weight method. A sufficiently large number of deer are collected (usually from hunter kills) from a certain range or ranges, and the average weight of an adult male, adult female, etc., is calculated. The lower the average weights, the higher the degree of overpopulation. If studies are made annually, we can spot year-to-year trends. This method is still widely used.

Another index to range conditions utilizes antler measurements. After a sufficient number of male deer are obtained from the range or ranges which interest us, antler measurements are taken. Because older deer tend to have larger antlers with more points, the data are organized by age class. High values indicate a healthy population; low values indicate overpopulation.

Another method uses measures of bones other than antlers. Lengths of long bones are measured and arranged according to sex and age classes. Sometimes ratios of one bone length to another (e.g., femur-hind foot) are calculated as well. Low values for lengths or length ratios indicate overpopulation.

Another good indicator of population or range condition

is deer fertility. Fertility is high when the deer population is equal to or below the carrying capacity (the number of deer the land can adequately support); it is low when the range is overpopulated. Fertility of does can be expressed in several different ways; e.g., percent of does bearing embryos, average number of embryos per doe, and average number of corpora lutea or corpora albicans per doe. Counts of corpora lutea and corpora albicans are direct measures of the number of eggs, or potential embryos, produced by a doe. High embryo, corpora lutea, or corpora albicans counts indicate a healthy population and habitat.

A more direct method of habitat evaluation is the analysis of the rumen or stomach contents. With this method, we can determine the nutritive value of whatever deer have eaten. Two values which are especially significant are nitrogen content and fiber content. High nitrogen content and low fiber content indicate a high quality diet and good



Dead deer "talk" to those who can understand, telling a great deal about the condition of their range and the health of the herd.

Commission photos by Kesteloo



deer range; low nitrogen content and high fiber content indicate a low quality diet and poor deer range.

The physical condition of a deer can also tell us a great deal about the habitat which produced it. In early autumn a deer on good range will have an appreciable amount of fat distributed throughout the body; i.e., over the saddle and hips, between the hide and body cavity, around the kidney and intestines, on a spot over the heart, and in the bone marrow. Even on range in good condition a deer cannot hope to retain all of this impressive supply of fat over the winter. However, deer on good range will retain a greater amount of this fat than deer on an overbrowsed or overpopulated range. For this reason, the condition of deer taken from a given range can give us an indication of the condition of the habitat.

About this time, one might ask: "Why so many methods of determining the same thing? Isn't one good enough?"



Well, it would be much simpler if one method could give us everything we wanted to know. Unfortunately, each of these methods has certain weaknesses which can be remedied only by using it in conjunction with other methods. Of course, there do occur situations in which only one method can be used. However, it is much better to use a combination of several methods, if possible and feasible, than to limit oneself to any given one.

For example, assume that we have two areas, inhabited by two different populations of deer: Possum Hollow and Cypress Swamp. Assume also that we have reason to suspect that Possum Hollow range is in much better condition than Cypress Swamp range. We decide to collect data on body weights, antler beam diameters, and corpora lutea from hunter-killed deer in the two areas during the December hunting season.

We obtain data from 100 deer (50 males and 50 females) on each area. The results look like this:

	Possum Hollow		Cypress Swamp
Ave. corpora lutea per adult female	2.15		1.12
Ave. antler beam diam. per adult male, mm.	27.32	1½ yr. class	19.24
	29.49	2½ yr. class	21.53
	31.53	3½ yr. class	23.47
Ave. adult male weight, lbs.	140.3		103.6
Ave. adult female weight, lbs.	110.2		85.4

We can see from these results that, as we suspected, Possum Hollow range is in much better condition than Cypress Swamp range. The results from each method complement and verify the results from the other two. We can now take management steps to remedy the Cypress Swamp situation.

It is easy to see how important habitat evaluation is in determining whether management is needed and which direction it should take. Research now and in the future should yield more meaningful and more efficient methods of habitat evaluation, and, through evaluation, improved deer populations for everyone.

## DO NOT FOLD, SPINDLE, OR MUTILATE

By ROBERT R. FALES  
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Wildlife Research Unit

SHAKESPEARE'S classic tale of Macbeth features the tragic hero and three unlikely-looking ladies shrouded by a chill dark fog. Cackling insanely about bubbling cauldrons, the trio make some astounding predictions and answer some humanly unanswerable questions. Likewise, the computer can, given the proper information, make predictions and solve humanly unsolvable problems. Fortunately, the picture of a giant metal box flickering like a mis-wired Christmas tree and operated by balding sinisterly garbed "scientists" is not really the common view. Unfortunately, however, all too often the impression is that computers are not worth the holes punched in those funny little cards that they "eat." In spite of ideas like those above, and because of the tremendous potential involved, the computer will play an increasing role in our daily lives.

Currently, many branches of science, including wildlife management, are using the computer in one capacity or

another to meet the needs of growing technology. Administrators, researchers, and managers have seen that the computer, *properly programmed*, can solve in a relatively short period problems that would have taken a battery of their best men weeks or months. Not only does the "electronic brain" save precious time by slugging through tedious mathematics, it is also far less apt than its caretakers to make blunders. Considering economics, the computer can more than pay for itself if used so as to take full advantage of its capacity.

The U. S. Forest Service in Pennsylvania found that it was too cumbersome and time consuming to use mechanical equipment in handling great masses of data on timber volume, growth, and other forestry measurements. The station then installed a computer to keep an inventory of the thousands of acres of trees. This system allows workers the "luxury" of time to decide how the output information should be used. The result is that the station now has the capacity for constant, rapid, low cost processing of large volumes of data for improved methods of National Forest management.

Early in 1967, the Forest Fire Research Institute at Ottawa, Canada, decided to expand its fire-weather forecasting program. Previously, daily calculations of current and predicted fire danger indexes for each station had been produced by hand, using such factors as air moisture, wind speed, and rain and snowfall combined with fire danger index tables. After installation of a large IBM computer, the institute reduced its costs to about \$15 per day. This expense provides fire danger indexes for the 135 participating stations in the provinces. Besides the cost factor, the institute found that: (1) human errors were cut out during the calculations, (2) more information could be processed, and in shorter time, than could ordinarily be calculated in the field, and (3) the new system freed fire-weather forecasters from routine tasks.

Wildlife management was exploring the possibilities of the computer before either of the above had even reached the planning stage. In January 1964, a large scale radio-telemetry station was set up at Cedar Creek Natural History Area just north of Minneapolis, Minnesota. By monitoring the movements of an animal carrying a strapped-on miniature radio transmitter, the station was able to locate the animal, or obtain a "fix," at any given time. "Fixes" for many animals over long periods of time constituted the data which was processed by the University of Minnesota's high speed digital computer. The results were automatic map construction of the daily movements of such species as the cottontail rabbit, white-tailed deer, and red fox, and tables listing time of movements, distances traveled, and intensity of movements.

The computer is a magnificent working tool, not just "Cloud 9" thinking. Wildlife management will take giant steps forward as the role of this tool becomes more widely recognized. Howbert W. Bonnett, Branch Chief in charge of Automatic Data Processing with the U. S. Forest Service in Utah, has predicted the future for computers in natural resource management work:

Like it or not, the computer is here to stay. It cannot be shelved any more than the telescope or the steam engine could have been shelved. The question should not be "Can we afford to use the computer?" but rather, "Where do we need the capabilities of the computer?" since, when we face up to the demands on our profession, we find that we can't afford not to use the computer.



# Why and What Is A Bird Watcher?

By J. EARL COMFORT  
*Kirkwood, Missouri*

I PRESUME most bird watchers have been questioned about what makes them tick. So I am not surprised when I am occasionally buttonholed and asked point-blank, "What is a bird watcher, and how come?"

There was a time when I felt called upon to defend my hobby and explain what I derived from my bird snooping. Because we have attained such great numbers we are no longer considered oddballs or crackpots, though we are still the butts of good-natured jokes. Safety in numbers has protected us from derision, leading to respect and even envy. It is no longer necessary to become inured to taunts from non-birders who, naturally, outnumber us.

Birders, whose numbers are now legion, are recruited from persons in all walks of life, culminating in bird walks. (No pun intended, it says here.) There is a tendency for professional people to turn to bird watching as an escape from the daily routine. Locally there is a preponderance of medical doctors in the "Bird Watcher's Association." There can be no doubt about the value of outdoor birding (in moderation) as to preserving or regaining health. No doubt there are instances where birding has prevented a crack-up. I hasten to add this applies to other forms of outdoor nature seeking, such as botanizing and nature hiking in general. But there is no getting away from the fact birders outnumber the others, ranging from the "armchair" birder to those that bird at the drop of the hat to spend long hours afield whenever possible, and there are the birdfeeder birders who conveniently attract their subjects to be enjoyed through their windows during the winter months. Birders prefer the "title" of bird watcher over bird lover.

We are rapidly gaining in numbers on the sportsmen. However, there are many birders in the ranks of the hunters and fishermen. In fact, you can't tell them apart without a scorecard.

Once birding gets into your blood there is no getting "shed" of it even if you so desired. Once a birder, always a birder, usually applies. There are dyed-in-the-wool birders and the back-yard birders described above. What creates a birder is hard to define since it hits some very early in life with an all-consuming desire to find and identify species, while others in the same family environment can't be bothered. With some the desire to know birds better grows gradually; with others it hits suddenly, hard and definitely. Many succumb to the birding lure by exposure while in the company of birders. Most bird watchers have one thing in common, a keen interest in nature and a genuine desire to conserve all of her resources.

As stated, we are no longer simply "tolerated" and are sometimes envied by those that lack a satisfying, healthful hobby. Then why don't they take up the sport? It isn't that simple nor THAT easy. There must be a natural inclination. With some it never develops no matter how much they are exposed on pleasant, invigorating bird trips and the bird bug never bites. To them (perish the thought) bird watching may even be boring. To some, what started out as a simple bird-seeking diversion may later lead to expeditions afar with a consuming desire to list foreign birds.

Most of us who will go birding at the drop of the sportsman's hat will make a bird list at the drop of that same chapeau. Lists are many and varied, the main one being the

life list, which includes species found anywhere. In addition, some keep U. S. lists, state lists and area lists. Some use check list cards to mark the birds seen on each and every trip. In our area the yearly list of species seen within a radius of 50 miles of the city is all important to those who seek the goal of 200 or more species checked in any given year. A surprising number reach the goal yearly.

Many bird experts are excellent botanists and vice versa, the same applying to other phases of nature's offerings. Besides the pleasure of bird watching there is an indescribably pleasant social fellowship among the bird hikers that leads to good will as it does among hunters and fishermen. This also applies to all nature seeking groups, amateur or professional.

We must qualify bird watching by adding bird listening, since most experts depend to a great extent on identity of song and call note. A good birder will be able to identify a species by sound long before he sights it. Thus, he is able to automatically check off another species when it comes into view. This is just another part of birding that makes it so enticing and a challenge. Records of bird calls and bird songs are becoming increasingly popular. They are particularly useful to beginners, as are bird lists that denote the kinds of birds one can expect in a given area.

While many bird seekers use this pleasant hobby only as a diversion, there are quite a few, who, as a direct result of the interest in birds, have made it a career by taking a wildlife management course at college or have chosen a related subject. Many have become science teachers, others ranger naturalists, pursuing their hobby with pay. Yes, you can have your cake and eat it, too.

I have news for those who think bird watching is a waste of time as far as scientific value is concerned. One of the big birding events of the year occurs during the Christmas holiday seasons when birders from all over the U.S.A. and parts of Canada take a bird count from dawn to dusk. The tabulations are forwarded to the National Audubon Society in New York City, where the results are printed and the scientific data recorded for posterity. Local nature societies furnish the lion's share of the bird watcher participants for this important survey. Without birders this worthy project would never have been initiated. Because birders throughout our country assist in "moon watch" in migration season by checking the night movement across the path of the moon through binoculars and/or spotting scopes, another important survey is made possible, though the birds aren't identified as to species.

Park bird walks for beginners sponsored by nature clubs are quite popular. On these walks many eminent conservationists have been spawned. The many bird books are stepping stones of assistance to future ornithology experts.

By way of warning, if you develop a taste for birding and think you can take it or leave it, you may have a big surprise coming. If you feel as a birder you are accomplishing nothing, be assured no harm is involved. You might even reach the stage where neither gloom of night nor rain nor snow can stay you from your desired bird chasing rounds.

Come to think of it, I haven't completely answered your question, "Why and what is a bird watcher?" Come to think of it, I don't have the entire answer. Who has?



# CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

**COHO EGGS HATCHED IN VIRGINIA.** Virginia has received a shipment of 10,000 coho salmon eggs from Oregon for experimental hatching and rearing at the Game Commission's Marion Fish Cultural Station. The coho is the species of Pacific salmon that was recently introduced into the Great Lakes with spectacular results, but no spectacular fishery is expected to develop from the Virginia introductions.

The coho lives for two years until it becomes sexually mature and moves upstream to spawn, after which it dies. Some have been reported up to 15 and 20 pounds from the Great Lakes, but many are only 5 to 8 pounds when caught. Environmental conditions were nearly ideal in Lake Michigan when the salmon were first introduced. The sea lampreys had been reduced to low numbers, native predators were scarce, and alewives had increased to fantastic numbers providing a bounteous food supply.

Fishery workers will concentrate on perfecting salmon hatching and rearing techniques in Virginia trout hatcheries. Resulting fingerlings will probably be released next fall in Smith Mountain and Philpott Reservoirs, whose deep waters don't exceed the 50-55 degree tolerance of the salmon. If the cohos survive, they should show up in the tributary streams during the fall of 1970 when the spawning urge develops. It is almost a certainty that they will find no suitable spawning areas. If the fish show potential, they could be maintained through artificial stocking as are muskellunge and northern pike. It is not anticipated that growth in Virginia waters will be anything like that of fish in the ocean or the Great Lakes.

**WESTERN DEER KILL SLIGHTLY DOWN.** A harvest of 10,804 deer during the two week western season represents a decrease of 588 in that area from the number bagged last year, according to Game Commission big game tag records. Most of the decrease occurred in the central mountain section, and apparently resulted from the Game Commission's decision to move the antlerless deer day from the first to the last of the season to reduce the doe harvest. The doe kill was about half the number taken the year before. The buck kill increased noticeably.

Bath County was again tops with a kill of 1,543. Rockingham County stayed in second place with a kill of 1,216, followed by Augusta County with 937.

The season was apparently a good one for the state's bowhunters who bagged 198 deer in western counties as opposed to 185 from this section last year. Wythe County had the largest number of bow kills with 21.

**INTERIOR ISSUES NEW CONSERVATION YEARBOOK.** It's Your World, the fifth in a series of conservation yearbooks of the Department of the Interior, underscores the nationwide advances made by individuals and groups in improving cities and suburbs during the past several years, but warns that more intensive action by more citizens is necessary if widespread abuse of the environment is to be halted.

The new yearbook is filled with examples of how concerned citizens have succeeded in many conservation projects, often in cooperation with Interior agencies, and contains a "Community Conservation Checklist" showing how people can fight pollution and how they can assure more open space for recreation.

In the introduction to the yearbook, Secretary of the Interior Stewart L. Udall says: "The need for a new national attitude toward our environment has grown until today it is an absolute necessity for human survival. Technology has stretched and magnified our natural resource potential in many areas. It has also supplied a harassed people with an infinite number of painkillers and tranquilizers. But it cannot provide us with one square inch of additional planetary surface, nor do more than gloss over the mounting environmental insults to humanity."

It's Your World is for sale for \$2.00 by the Superintendent of Documents, Washington, D. C. 20402. Its companion volumes, also available from the Superintendent of Documents, are: Man . . . An Endangered Species?, \$1.50; The Third Wave, \$2.00; The Population Challenge, \$1.25; and Quest for Quality, \$1.00.



# BIRDS OF VIRGINIA

Text and photos by  
Wil



The Canada goose, well known to Virginia's hunters, flies majestically across this Canadian stamp issued in 1952.



Several other birds found in Virginia appear on Canadian stamps. The common loon (left) and the gannet are familiar along our coast.



**B**IRD watchers, nature lovers, hunters and stamp collectors of the Old Dominion may find their varied interests converging on postage stamps. Virginia's bird-life is well represented on a number of stamps issued throughout the world.

More than fifty species found in the Commonwealth appear on the stamps of at least thirty different countries, principalities, islands and local governments that operate their own postal system.

At first, one may wonder how it is possible that such faraway places as Canada, France, Monaco, Venezuela and the Falkland Islands can feature Virginia's avifauna on their stamps. When we remember, however, that many of our birds are migrants or transients and some are circumpolar in distribution while others are "imported," then their appearance on foreign postal issues is certainly more understand-



The Virginia bird most recent stamp is the wood duck. This was issued to recognize the work of an organization that has spent

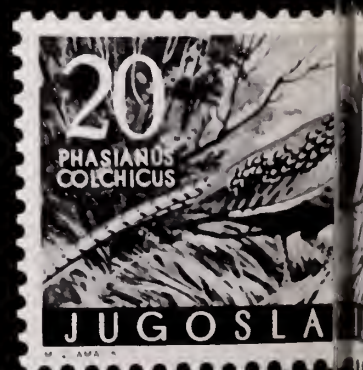
The barn owl and the starling appear on two Monaco stamps of 1962.



The national bird, the bald eagle, decorated an air mail stamp of 1956 in the interest of wildlife conservation. Below, an eagle



One of Virginia's favorite game birds, the bobwhite quail, is seen on a Cuban air mail issue of 1956.





# ON STAMPS

MALES E. NIMMO, JR.  
murg



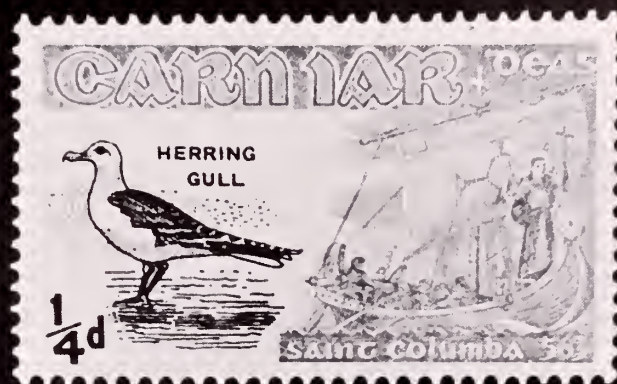
appear on a United States  
waterfowl commemorative stamp  
Shipments of Ducks Unlimited,  
\$15 million for waterfowl  
abn.

able.

Roughly one third of the stamps picturing birds of Virginia are to be found on the stamps of Canada, Cuba and the United States. Approximately one third are issued by European countries and the remaining third originate from scattered areas around the globe.

In some cases the particular species pictured may be noted either as a rarity or an "accidental" on Virginia's check-list of birds. In this category, for example, we find the white pelican, which may be seen on a Cuban air-mail stamp of 1956, or the eastern brown pelican, which appears on a 1956 issue of the Virgin Islands. The European woodcock, an accidental species, is featured on a 1958 Yugoslavia stamp.

The accompanying photographs show some of our most familiar birds.



The herring gull and great black-backed gull are shown on local stamps from Carn Island.



and our largest upland game bird, the wild turkey, appeared on a stamp  
places a Venezuelan stamp. Yugoslavia used the pheasant and mallard.



Two of Virginia's common birds, the turkey vulture and the feral pigeon (rock dove), can be seen on the Falklands Islands issue of 1946 and the French stamp of 1957.





# A Warden Enjoys His Work

By BILL WEEKES  
Martinsville

SOMETIMES a game warden like Edgar Lemons of Collinsville wished his job wasn't quite so necessary. But he and the 120 other Virginians who hold such an occupation realize that as long as people yearn to tramp the woods, angle for fish and shoot game, they won't be going out of business.

"If some hunters would act right, there'd be enough game for everybody," Lemons reflected recently. "If some would stop killing out of season and stop shooting like they didn't want to leave anything for anybody else, then maybe there wouldn't be as much need for my kind of job.

"Some people may be honest with money and wouldn't think of stealing for the world, but some of those same people, if they thought they could get a piece of game illegally, they'd do it," Lemons disclosed.

Ideally, Lemons, who's been Henry County game warden for 25 years, would much rather see the sportsman when he's right than when he's wrong. The game warden wants to see the hunter happy, having a good time collecting his limit.

But the warden must keep on the prowl for the predatory violator.

"He's a lot smarter these days," Lemons said. "He used to park his ear where he was hunting out of season, and we'd catch him much more easily. Now, he has someone drop him off and pick him up later on another road."

But the more experienced the violator, the better chance he will be caught because he'll repeat his misdeed. Conversely, the more experienced the game warden, the better chance he will catch his man.

For instance, Lemons has become so familiar with Henry County that if he hears a shot go off in any given woods, he'd be able to pinpoint its origin and know where the hunter will come out because he knows the location of the hickory trees where the squirrels hang out and the deer trails, as well as the roads leading in and out of the woods.

"Depending on how much underbrush there is, it may take a few minutes to an hour to catch up to the hunters," Lemons disclosed. "You track them by finding match stems, cigarette butts, broken leaves. After you stay out awhile you can tell by these things."

One unusual incident Lemons recalled happened in an area where he had received many complaints about persons hunting squirrel out of season—Henry County's most common game law violation. Lemons was cruising along one day when he heard the report of a gun up ahead. He drove ahead and overtook a car and asked the driver whether he had been hunting. The driver said no, but Lemons discovered his gun had been fired not long before.

"I told him I'd have to search his car and he even helped me do it," Lemons recalled. "We looked up under the seats, and in the trunk and then I noticed he still had tubes in his spare tires. I pulled up one tube and out fell a squirrel. I pulled up another tube and another squirrel fell out. He sort of smiled and said, well he had tried."

Violators react two ways for the most part, Lemons indicated. Some are real nervous when they see him coming; some are as calm as can be.

"Some can look you right in the eye and have game hidden all around them," Lemons revealed. "Many cause suspicion by the way they look at you when you pass them on the road. I stop, turn around and catch them with illegal

game, which I'd never suspected they had had they not looked at me the way they did."

One of the catches of which he's most proud he labels the "Turkey Case." He came upon a fellow fishing the Smith River a couple miles below the dam and noticed some turkey feathers in the water down the stream from where he was seated. Lemons asked the fellow about them, and the fisherman replied they had been there when he arrived. Lemons had caught the fellow in a lie because Lemons had been at the same spot shortly before the fellow had arrived, and there had been no sign of feathers then.

Lemons spied a bag over in the bushes and when he asked to look through it, the fellow owned up to having killed a turkey hen which had flown over the river into those same bushes—had killed the bird with a rock, in fact! He showed the rock which had blood on it. The fine and replacement fee totaled \$100.

On two other cases, Lemons chased down a violator who crashed his car trying to escape. Another trackdown was



Edgar Lemons, Henry County Warden Patrol Leader.

easy. In the Fairystone area, a high school boy had killed a turkey and run and left it when the superintendent came along. Lemons found a pen with the boy's name on it at the scene.

Many times sportsmen help Lemons bring the violator to justice. Countless are the complaints he receives on the phone or in the mail from landowners, who put the game warden on the track of wrongdoers.

"Many times a sportsman will tell of a person hunting out of season. After all, he's waiting himself and he justifiably thinks others should hold back as well."

Last year before trout season, a nature photographer wading out in the Smith River came upon a trout angler out of season. The poacher crept to shore, left his rod, reel and creel, jumped into his car and roared away from the scene.

"This fellow later bragged on how many trout he had caught out of season (ten), but confessed he wouldn't be able to fish when the season arrived because the game warden had his gear. He made the mistake of telling the wrong person, who happened to be a real sportsman and told me



who the man was."

One of the worst violators, in Lemons' opinion, is he who spotlights deer at night.

"He not only shoots a lot of other animals, but this kind of hunter is dangerous because he's shooting near people's homes. He's usually a person hunting without a license and a violator of many other laws, as well as being just plain unsportsmanlike."

Lemons carries many other responsibilities in addition to tracking down violators, though this is an important aspect of his job. He also assists rescue squads searching for bodies in waters, persons in distress, and the Forest Service in extinguishing fires. He restocks streams with trout periodically and looks after wildlife management areas. Also, he must take time out periodically to attend a refresher school.

Lemons also gets help. During the deer season, he is assisted in enforcement by local police, deputies and state police. In the trout season he gets special helpers from Pittsylvania County, and Lynchburg.

"I don't think I could operate without the cooperation of these other law enforcement people, especially during the trout season when there's so much traffic."



Lemons checks two bank fishermen, then examines the life preservers on a boat touring Philpott Reservoir.

Lemons restocks the Smith River in February and March and during intervals in the summer. Last year he put in 28,000 trout in increments of 2,000 and 4,000.

Lemons is one of 28 area leaders in the state. This means he not only is responsible for the enforcement of game, fish and boating laws in his home county of Henry, but also plans and supervises such enforcement by wardens in three other counties—Floyd, Carroll and Patrick.

Such co-ordination of effort comes during the fishing season. Three days a week—usually Wednesday, Saturday and Sunday—Lemons tours Philpott Lake with one of his wardens to inspect for fishing licenses.

"We find many without licenses. Some forget to renew them. Some merely are trying to get by," Lemons stated.

He will spot check a lake, not bothering to investigate those he knows have bought a license. In six to eight hours of patrolling he may check 35 to 100 fishermen. One or two nights a week he will tour the lake.

"Once in awhile a fisherman will jump up from a bank and run away when we come, but we generally find out who it

was and get him later," Lemons says.

A common violation is not having a life preserver in the boat.

"Many leave it at home and we have to loan them one until they get back to the docks," Lemons explains. "If the violator is from out of state, he has to post bond. Other common violations are no running lights or fire extinguisher."

Lemons also looks after three wildlife management areas in Henry County—the Game Commission-owned 4,800 acres at Fairystone; 6,000 acres of Army Corps of Engineer land at Philpott; and several hundred acres of privately-owned land north and east of Martinsville.

In the fall and spring Lemons oversees the plowing and seeding of clover, oats, rye and corn as food patches for such wildlife as deer, quail, dove and pheasant.

"About three years ago Fairystone was stocked with several hundred Iranian pheasants," revealed Lemons. "When and if they'll be open for hunting will be up to the game biologist to decide." As of now, pheasant hunting is not allowed.

Lemons reported that sportsmen many times volunteer to sow seed for wildlife and help put out the 40 salt licks that

dot the Philpott and Fairystone areas.

Just last year, Lemons helped put out a fire on the Fairystone wildlife area, working all night and day putting dirt on logs and stumps to insure the fire wouldn't jump the fire lane cleared by a tractor.

"It happened in December near the close of the deer season. Hunters must have had a beer party because there were beer cans and empty shotgun shells littered about, all very uncalled for," Lemons related.

Like all game wardens, Lemons performs many seemingly small helpful acts in the line of duty, such as administering first aid to hikers or hunters who may have mashed a hand, cut a leg or been stung by bees. He meets all sorts of hunters and finds them, for the most part, cooperative. He boasts there are quite a few good bow and arrow Nimrods in Henry.

All of this may explain why he's hooked on the job he has held for a quarter of a century.

"I like outdoor life," Lemons stated simply. "I like to be around game and fish. I like to talk with people and be out in the open all the time."



# A Blind Girl's Prayer

By GLORIA F. SHIPMAN

*Dear God, through your eyes show me the beauty, the sounds and the warmth which for so long I have not seen or heard.*

*Through your eyes show me the trees in winter, bare like a new born babe.*

*Show me the leaves in autumn, with their rare and arrogant colours.*

*Put me on the top of a cliff where I may hear the waves beating against the solid mass of rock.*

*Let me feel the gentle breezes that softly caress my temples.*

*Show me the heavens with the rays of the sun shining through the phantom clouds.*

*Let me see the twinkling stars against the azure cloak of the sky, and the moon your eternal light, guiding our way in the darkness of the night.*

*Take me to a field where the countless flowers grow, let my nostrils be filled with the sweet and sensuous smells,*

*And let my inner eyes be blinded with their many colours.*

*Show me the crystal raindrops and the gleaming snow that melts as it touches the rich soil.*

*But most of all show me the warmth and kindness of my brethren everywhere.*

*Let them not pity me, but help them to see what I can only feel.*

*And if through your eyes I cannot see all this rare beauty and hear all these heavenly sounds here on earth,*

*Then, dear God, take my soul with Thee to your Paradise where I may be happy in the Glory of your light and beauty forever.*

From *The Fort*, Vol. XX, publication of Walton High School, The Bronx, New York. Gloria Shipman is now Mrs. F. J. Henley, who serves with the Commission of Game and Inland Fisheries' Fiscal Division in Richmond. "A Blind Girl's Prayer" was inspired, says Gloria, by an acquaintance who was not physically blind but who "saw and yet could not see" the beauties of creation which surrounded her.

# The Ancient Ginkgo Tree

By DR. A. B. MASSEY  
*Forestry and Wildlife, V.P.I.*

THE Ginkgo, *Ginkgo biloba*, also called the maidenhair tree from the similarity of the leaves to those of the maidenhair fern, is the only species in existence today of a very ancient plant family. Fossils in rocks indicate that it flourished some millions of years ago, at which time it was widespread in the world. It is thought to occur naturally today only in remote areas of interior China. Since early days Orientals, believing it to be a sacred tree, kept it in their temple grounds, which may account for the preservation of the species today.



The distinctive leaves of the ginkgo. At top is a spur with two leaves and stamen attached.

The Ginkgo was introduced in this country from China about 1784 and has proven to be a tolerant and an attractive tree along streets and city parkways. Attractive trees are to be seen along the Mall in Washington, D. C., Roosevelt Boulevard (U. S. 1) in Philadelphia and in other cities. A row of young trees has recently been planted on V.P.I. campus bordering the drive just west of the coliseum.

The blades of the leaves are fan shaped on a slender leaf stalk. Two or more leaves are attached to short stumpy spurs along the twigs. The leaves become yellow early in autumn and freely fall. The older leaves are two lobed, hence, the specific name *Ginkgo biloba*. The illustration shows young leaves. A knobby spur with two leaves and stamen cluster are to the side in the picture.

The trees are unisexual, the male tree producing the pollen and the female the ovules which, after pollination, become the yellowish one-seeded fruit similar to a plum. The soft pulpy covering surrounding the seed has a very objectionable, foul odor. The female tree should not be planted along streets or places frequented by people. The fallen fruits on the ground are very disagreeable. The Chinese are said to collect the fruit, and crack the seed to get the kernel for food.

For ornamental trees the male tree is propagated by cuttings, grafting or budding young trees of unknown sex. Trees from seed may be ten or more years old before their gender is revealed.



# ODD ADVENTURES OUT-OF-DOORS

By CHARLES H. PEERY  
*District Game Biologist*

**M**OST of us, at one time or another, have witnessed unusual happenings that add an extra measure of interest and entertainment to our observations of the wild creatures around us, and that make for good story telling. Having the opportunity to be out of doors most of the time, I have recorded in memory three events that seem particularly worthy of recounting.

The first happened in 1947, while I was a graduate student at V.P.I. The project I was working on required the trapping and tagging of gray squirrels on the campus at Blacksburg and in woodlots on the college farm. The wooden traps we used were somewhat like those most farm reared boys use to catch rabbits alive. In squirrel trapping, these box traps are placed at the base of den or mast producing trees. While running the trapline one day, I found the door closed on one of the traps at the base of a large oak. As I leaned over to take a look through the screen that covered the rear of the trap, something struck me on the back with the force of a hefty back-slap. My first thought was that one of my fellow students had been hidden behind the tree and was in a playful mood. I immediately formulated an appropriate remark to make and a plan of counterattack when I had regained an upright position. But when I stood up, there on the ground beside me was a squirrel, somewhat addled but rapidly regaining its senses. As I reached for it, off it went to a nearby tree, and up, up and away! It turned out that there was a female squirrel in the trap. Could the one that jumped out of the tree and on me have been her boy friend?

The second occurrence was not so unusual in itself, but to witness it was a rare experience. I have witnessed dogs killing deer, and hawks catching squirrels, but to see a weasel attack and kill a rabbit is truly out of the ordinary. Such things go on among nature's creatures all the time, but are mainly unnoticed by man. In its struggle for life the weasel must live on meat, and in order to have meat it must kill. I have seen evidence of a weasel having killed as many as thirteen wild turkeys in one night, surely more than enough to meet its requirement for food. I have heard and read

I have often heard that the weasel is a vicious little animal. Now I know.

Photo by K. H. Maslowski



VSCC photo by Flournoy

A feathered bombshell "bombed" a cabin.

that weasels are vicious little animals, and now I know from experience.

While driving along a road, I glanced at the ditch line ahead and my eye caught a glimpse of movement. At first I thought I might have seen a woodchuck, but the color did not quite match that of a ground hog and then I realized that something and a rabbit were having a go at it. After finding a wide place on the shoulder of the road to park the car I walked back to find a weasel firmly attached to a rabbit's throat, and both were tumbling in the ditch. The rabbit was emitting squeals and shrieks of pain and fear. I grabbed the nearest rock and let fly, and the weasel released its hold and slithered up the bank. I had missed. The rabbit hobbled up the ditch about ten feet and stopped, and here came Mr. Weasel again!

Just before he reached the rabbit I kicked, and missed again. I ran to the car, opened the trunk, and came out with a sawed-off broom handle which I carried to use on the end of a minnow seine. Again the weasel attacked the rabbit, I swung the broomstick mightily, and again I missed. The weasel ran away, but in a few seconds was back again. But the rabbit had moved a little farther along the ditch, and perhaps in daylight the weasel had some difficulty in seeing, since the species is mostly nocturnal in its habits. At any rate, lying in the ditch between the rabbit and the weasel was a discarded beer can, and the vicious little predator mistook the can for its prey and jumped it. Once again I missed with the broom handle, and the weasel, finding the biting of the can not to his liking, disappeared in the fencerow beside the road. The rabbit, injured beyond recovery, died at its last resting place in the ditch, and I went on to keep my appointment.

My third strange tale is of an accident that ended on a more pleasant note than did the weasel incident. I had a date set up to meet one of my co-workers at a patrol cabin in Wise County. When I drove up he had just finished sweeping feathers from the cabin, and he reported that he had just removed a ruffed grouse from the premises. With the cabin located in forest land, grouse were apt to be found almost any place in the vicinity. It seems that my friend had been out in the woods a little way from the cabin and upon returning he flushed two birds, one of which veered into the timber while the other propelled itself directly toward the cabin. It flew under overhanging pine limbs and didn't pull up in time. Right through the fly screen and window pane and into the interior of the cabin it went, scattering splintered glass both inside and outside. Verlon had to corner the bird in the cabin to capture it for release outside, apparently not seriously hurt.



# TWO FOR

## GRAND FINALE TO A DEER HUNT

**A** SALEM hunter, George M. Hill, proved that sometimes you don't have to come in first to pick up all the glory.

Hill is an ardent deer hunter, but for awhile last season he'd begun to think fate had dealt him a blow below the belt.

He was able to get time off from his job to hunt only the first week, November 18-23, with the Catawba Hunt Club of which he is a member. The club tries its luck on leased land along the lower Catawba Creek in Botetourt County.

All week long, Hill looked on enviously as his fellow nimrods carted in trophies to camp. Through Friday they had bagged ten bucks, to be precise.

Hill had spotted deer, all right, "about 25 but they were all does." Only bucks were legal.

Cognizant of Hill's feelings, his fellow hunters decided to make his final day, Saturday of the first week of the season, one to remember. It was "let's help Hill day."

He chose a likely looking stand near where Lapsley's Run flows into Catawba Creek.

He bided his time for about 30 minutes on the stand.

Nothing happened.

Around 10 a.m., however, he saw something that made his eyes bulge in disbelief. Coming toward him were two bucks. One had only about six points. But that other one—he was a giant!

Hill aimed carefully at the big fellow with his 30.06 rifle and pressed the trigger. The buck crashed to the ground.

Hill scampered the 75 yards or so to where the buck lay and looked at it in wonderment. It was a 23-pointer.

Weighed later after being dressed, it tipped the scales at over 200 pounds.

Hill was told later by some old-timers in the area that a huge buck like his had been spotted in the area off and on for a long time. They referred to it as "big as an elk."

Hill was teased no more about his lack of luck by his fellow hunters, to be sure.

His buck, brought down with time running out, should have a very good chance of winning the Virginia big game trophy contest in the fall at Harrisonburg.

George Hill poses with his last-minute prize.



Twenty-eight points and an extra antler.

*George Hill's buck may indeed win in the trophy contest, but not necessarily on "points." Arnold N. Marsh, 3036 Kenora Drive, Richmond, hunting on opening day with the Sussex Conservation Committee Club in Fluvanna County, got a buck with 28 points on three antlers. That's right, the buck was sporting an extra antler on the left side.—Ed.*



## AN AMATEUR SHOWS THEM HOW

**T**RUE or false:

It's almost always the expert fisherman who brings home prize fish.

False.

And Dillard L. Grubb is a shining example that it's false.

Grubb describes himself as a "terrible angler," but one who loves fishing and is "persistent." So what happens? Grubb, who lives in Roanoke, broke the state record on white bass last fall.

"I'm such a bad fisherman," he declared, "that I couldn't catch anything in Smith Mountain Lake." This impoundment, covering 20,000 acres in Bedford, Campbell, Franklin and Pittsylvania Counties, is noted for its productivity for anglers.

Grubb, all but skunked at Smith Mountain, began hauling his boat to Claytor. That's where he caught his three-pound, record-breaking white bass on December 7, 1968. It was 17½ inches long.

The fish topped the former champ, caught in March of 1967 by John Harvey of Glen Lyn. His 2¾ pounder also came from Claytor, which is probably the best white bass lake in the state.

As record fish weights go, neither of these may seem like giants. But they are big for white bass.

After Grubb threw in the towel on Smith Mountain Lake to concentrate on Claytor, he began to catch white bass with regularity. He caught six there on Thanksgiving Day. Some of his whiteys weighed from 1½ to 2 pounds.

Although Grubb belittles his fishing ability, he may not be quite the bumpkin he claims to be. He worked out a system for latching onto those white bass.

It works like this:

Grubb, after finding a likely looking fishing spot, starts out using Doll Fly lures "just to get the attention of the fish."

He rarely catches a bass on the artificials, he said, but when bass start nosing around them, he pulls a sleight-of-hand on them. He replaces the lure with hooks baited with live minnows "usually shiners from 3½ to 4 inches long."

When he caught the champ in December, the weather was more suitable to hunting than to fishing. But as he said, he's persistent.

He ran his 14-foot boat up Claytor's Peak Creek and began fishing. "I had the top and the sides closed, and a heater going in the front, and was pretty cozy," he said.

He anchored and started fishing in water 35 to 40 feet deep. It was around 11 o'clock in the morning when he hooked and landed the champ whitey on a minnow.

Ironically, he scored at an unusual hour. Most of the white bass at Claytor are caught at night-time.

He caught three other white bass and also a yellow perch.

Grubb recalled that at the time he wasn't thinking in

terms of records, but knew that the biggest bass on his stringer was the best of the kind he had caught.

When he took his boat in, another fisherman spied the big fish and remarked that it was the largest white bass he'd ever seen. This comment set Grubb to wondering if perhaps he should do some checking.

A telephone call to the Fish Division, Commission of Game and Inland Fisheries, in Richmond confirmed that the white bass indeed was a record.

Grubb, who is a maintenance foreman in the Norfolk and Western Railway's East End Shops in Roanoke, is not used to the hero's role.

Shaking his head when he learned that he'd set a record, he commented:

"... and I thought it was something when I saw a guy catch 18 of those white bass a couple of weeks ago."



Dillard Grubb shows off award winning white bass.

*Dillard Grubb's record did not last long. As we were going to press Joe L. Ashworth of Bluefield registered a 3-pound 2-ounce white bass which he caught below Conrad's boat dock on Peak Creek, an arm of Claytor Lake, while trolling with a gray lure. Ashworth's fish was witnessed by Gerald Haun of Bluefield, and William VanDyke, owner of the store where the fish was weighed. Claytor Lake thus continues to lead all other bodies of water in Virginia in the production of big white bass.—Ed.*



# OLD BONEHEAD'S DEFEAT

By RALPH JORDAN CLIFFORD  
*Plano, Illinois*

**M**OST generally, when coon hunting all night without success there isn't much to tell about, tho of course the pure enjoyment of just being out is reward enough. But once in a blue moon, even tho failing to "bring home the bacon," a hunt can be just as exciting, and provide even more action, such as our last pursuit of the smartest old raccoon we've seen in forty years of hunting them.

The close of last season marked the fourth straight year that we have failed to bring Old Three-Foot, as he is known to the few coon hunters and trappers in my area, to bag. He is of record size, with his right hind foot missing, so that he leaves only three tracks when in a hurry, and a slight indentation with the footless leg when moving leisurely. During these four seasons we've seen him several times, with his peculiar hump-backed jumping run, and on our last hunt we were practically breathing down his back. It was on this occasion that the wily old ringtail got us into an awful pickle. But now I'm kind of glad we didn't get him, for another season is coming, and we look forward in eager anticipation to going all-out after him when next we have the opportunity.

By "we" I mean Bill "Monkey" Renche, his dog, Old Bonehead, and myself. Bill has been a plumber for thirty years, and my outdoor-activities partner since boyhood. His vocation has given him a disposition like Charley De Gaulle's, and he also blames it for his "bad back" and "failing health." But nobody in our little town pays him any mind, for his big heart more than makes up for his griping.

Often Bill is accompanied in the truck by his aging "Mountain Cooner," called "Boney" for short—a dog of almost human intelligence, and pet and companion to us for many years. Now wheezing a bit, and a mite stiff in the joints, he is still the best, and will hunt anything we are after, anytime, tho coon hunting is the only pursuit that really sends him.

A garage operator, and having been bald as a grapefruit since my twenties, I'm naturally known as "Curly." With a trick knee and gout attacks, I too, am slightly feeble; accordingly, certain members of our men's club will hilariously lay even money that the three of us won't make it back from a hunt, let alone bring home raccoons for club suppers. Mostly, we've fooled these smart-aleeks, but how right they were on our last outing!

It was a beautiful night to be out, tho conditions were not ideal for coon hunting. Warm, with melting snow under a bright, full moon, and myriads of stars across the sky. As usual, we had parked at Steward's Mill, near the edge of town. The creek was pretty high from all the run-off; knowing we couldn't wade it, we decided to walk back over the bridge and follow the millrace along the western hill (the town side) of the valley, where the going is much easier, as the main stream hugs the eastern slopes for several miles.

The bridge has one abutment anchored in the hill, with a filled-in approach on the valley side. Walking heavily up the incline in the gravelly slush, Bill and I were astonished when "Boney" suddenly let go his unmistakable coon-trail blast,



and bawling wildly with his head high, tore out for the bridge. We hustled, and were just in time to see a whopping big raccoon, about a yard ahead of Old Bonehead, jump off the bridge into the muddy current ten or twelve feet below.

"Holy mackerel!" Bill ejaculated. "That looked like Old Three-Foot—and practically in town! Maybe tonight we'll get him."

"Boney" had long ago learned that a coon in deep water was a mighty risky business for him, so of course didn't make the plunge. He also knew that his quarry would soon come ashore. So he ran around, howling with excitement, and decided that the coon would go downstream. Within a few seconds "Boney" took off like mad along the bank.

But his guess was wrong. However, it was Old Three-Foot, all right, as we saw when looking at his tracks where he'd been eating spilled shelled corn off the bridge planks. Now we spotted him, swimming steadily up the creek, and about thirty yards away. The night was so bright that one of us might have killed him with our twenty-two pistols, but we didn't chance it because we knew it would be impossible to find him in the high, murky water. So we could do nothing but wait, while "Boney" searched several blocks along the bank, crossed the creek, and returned to us on the opposite shore. He was whining in dejection and surprise, and plainly knew he'd been fooled, for he didn't pause but started up the creek, with Bill and me following hurriedly in high hope that Old Three-Foot would soon be treed.

Upon reaching the dam which controlled the millrace, Bill and I were plumb tuckered out from the soft going. So was Old B., who had been unable to find any trace of the big coon. He sat beside us appreciatively to eat his chunk of corned beef, while we downed our sandwiches and coffee. After a rest we headed back toward town, finding easier walking on the old road beside the millrace, enjoying the night, and sure we'd seen the last of Old Three-Foot for this season.

"Boney," tho, wouldn't give up. He stayed on the opposite shore, between the millrace and the creek, working back and forth and baying mildly on occasion, as was his way. We paused for a smoke, at the bottom of the town dump, an enormous pile of rubbish in an abandoned gravel pit. Just across the race from us a great sycamore towered above, the only big tree in a small meadow between the race and the dense hardwoods along the creek beyond. The northern out-



skirts of town lie over the hill, with homes only two or three blocks from the dump.

Unexpectedly, Old B.'s bugle trail-cry split the night again, and he was coming our way fast, across the meadow. The moon was now westerling, casting long shadows on the sycamore's far side. Out of them Old Three-Foot came quickly around the huge trunk, stopped to look fleetingly up the tree, then across to us and the dump. "Boney" had hit his trail between the heavy timber and the millrace, and I was certain he was trapped at last. But apparently he figured the sycamore was no place for him, for suddenly he came splashing lickety-larrup thru the mill race (which is shallow most of its length due to the gates at the dam) and into that mountain of junk not twenty feet from where we stood, open-mouthed!

Old Bonehead was close behind, and disappeared at full cry into that horrible mess of old refrigerators, stoves, washing machines, TV's, car stuff, barrels, wire, furniture, and so on. The pile is thirty to forty feet high and about a hundred square, partially filling the pit long ago dug in the hillside. Soon Bill and I were anxiously coaxing "Boney" to give up, but he kept working his way in, tho he seemed to be well up on top amid the heavier rubble. Then suddenly his "voice" changed to frenzied yips, and we knew he was stuck.

Really worried, we went around one end and up the slippery hill—a most difficult climb. Sure enough, "Boney" had somehow got into an upside-down auto body, which was mostly buried, so that he had only room enough to stick his head out where the back window once had been. Seeing us, his yips changed to pleading whines—all thought of Old Three-Foot was out of his mind. Unfortunately, all we could do was yell encouragement, for we couldn't get to him from where we were.

We were standing on the bank, debating what to do, when the mushy ground gave way and down we went, along with several rolls of rusty barbed wire, a bathtub full of tin cans, some broken playground equipment, and assorted smaller junk which hadn't been pushed over the edge.

Luckily, neither of us was badly hurt, tho bunged up plenty. The elastic bandage on my trick knee had split, and the knee was out of joint, so I was hors de combat. I couldn't help bellowing with pain almost as loud as Bill, who was entangled in the barbed wire, and roaring that his "bad back" was now broken. We had fallen about fifteen feet in a sort of trough, with the clay bank towering over us on the town side, and the impossible-to-climb overhang of junk toward the millrace. So now all three of us, somewhere on top of Old Three-Foot, were bedded down in the dump—a most discouraging circumstance!

Well, we made enough noise to raise the whole town, firing our pistols, yelling, accompanied by "Boney's" mournful howls, and so forth. It wasn't long before a lot of people were on the scene, even tho it was three in the morning. Our volunteer fire department came with sirens screaming (every member has one on his private car), axes, ladders, ropes, wire cutters, crow bars, et al, and soon rescued us.

Since, Bill and I have endured a lot of ribbing about our choice of coon hunting ground, but Old Bonehead appears not to notice. Nowadays, he absolutely refuses to get out of the truck when we unload trash at the dump, merely looking out in rather sorrowful dignity at the scene of his defeat.

It's going to be a trifle hard for the three of us to live this one down.

## Big Levels

(Continued from page 5)

chased with money from contributions by local people from Lyndhurst, Staunton, Waynesboro, and nearby areas. In all, about 75 deer were released on the area, most of which came from the Pisgah National Forest in western North Carolina with a few from Pennsylvania. They thrived here as they did throughout most of the rest of the George Washington National Forest where deer were later restocked. The public interest in providing good protection from poaching and self-hunting dogs during these early days assured the success of this venture. The first hunting season on the refuge was held in 1951 and was a "controlled hunt," in which the number of hunters was limited. A total of 120 deer were harvested, 85 of which were "antlerless." The herd had built up to the point where damage to crops and orchards in the country surrounding the refuge had become excessive. After this first year, the refuge has been treated more or less like any other area on the National Forest. With the passage of time, deer population has declined. Initially, this was probably due to heavy hunting pressure for the first few years after the former refuge was open to hunting. Range conditions have deteriorated because of the growth of the hardwood pole stands. Protection has become more difficult due to increased access and the ever-present free-running dogs. For some reason, the Big Levels area seems to be cursed with more than its share. It's a



Archers stalk deer on Big Levels wildlife management area.

never-ending battle to keep them under control. Their detrimental effect on the deer herd is without question.

For example, in the spring of 1967, at least 19 deer were known to have been killed by free-running dogs. On a number of occasions, packs of from 4 to 14 dogs have been observed chasing deer. In an attempt to remedy this situation a predator control program has been initiated with the U. S. Forest Service, Game Commission, and Augusta County working together to solve this problem. In addition, the Coal Road, the main access road through the area, has been declared a "special service road" and, as such, is closed except during the main hunting and fishing seasons. Thus, wildlife is protected from human disturbance during the critical periods. Observers indicate that these practices are already beginning to pay off. Deer signs are becoming more abundant, and the wild turkey is more plentiful than it has been for many years.

The Big Levels Refuge, now a "management unit," and the cooperative wildlife program which had its beginnings here, has made a niche for itself in the field of wildlife management. It has provided a testing ground for many new techniques, ideas, and regulations which today are routine. The Big Levels, because of its unique background, will, in all probability, continue as a testing ground for new ideas and techniques.





Edited by HARRY GILLAM

### Repeat Performance



Larry Sisson of Richmond holds two citation largemouths he caught from a Westmoreland County pond. He caught the smaller fish, an 8 pounder, then caught the large 10 pound 4 ounce in the same spot on the same lure some 2 weeks later.

### 34th Wildlife and Resources Conference Nears

"Conservation in an Urbanizing Society" is the theme of the 34th North American Wildlife and Natural Resources Conference that will be held in the Washington Hilton Hotel, Washington, D.C., on March 2-5, according to the Wildlife Management Institute. All sessions of the conference are open to the public, and interested persons may register and attend without charge. Among the attendees will be wildlife administrators, biologists, sportsmen and other conservationists from nearly all of the states, Canada, Mexico, and other countries.

### New Films for Game Commission Library

The Virginia Commission of Game and Inland Fisheries has added three new films to its library of 16-mm features available on a free loan basis to schools, sportsmen's clubs and other groups. The new films are all in color

and range from 17 to 23 minutes in length. "The Family Life of Birds" shows courtship and nesting activities of birds as well as how the various species fit into their environment. "Headwaters" emphasizes the value and vulnerability of our upland streams and how they may be protected. "A Place to Live" shows how food, water and shelter may easily be provided for wildlife on the farm. These films and some 70 others may be reserved by writing to Film Library, Box 1612, Richmond, Virginia 23213.

### Congressman Presents Memento to Warden's Widow



Watkins M. Abbitt, Congressman from the 4th District, presented to Mrs. C. P. Montgomery an engraved silver cigarette case from all the wardens of the Patrick Henry District in memory of her husband who served 28 years as State Game Warden.

### Angler Takes Near Record Sunfish



Mr. E. L. Petty, 81 year old angler of Phenix, with the near record bluegill that he caught from a one acre farm pond in Charlotte County. The 4 lb. 2 oz. fish measured 15 inches in length and was caught on a flyrod.

### Stoney Battery Coon Hunters Sponsor Hunt Show



John Testerman, Game Warden Roy Smith, Garland Tilson and the Bench Show Judge admire the entry of H. Emmerly of North Carolina in the Stoney Battery Coon Hunters Bench Show.

The Stoney Battery Coon Hunters Club sponsored a night hunt and bench show for coon hounds last fall which attracted hunters from West Virginia, Maryland, Tennessee and North Carolina. The Champion of Champion's Trophy went to a dog entered by George Willard of Rural Retreat.

The club has a pond for water races under construction in addition to their other facilities. The club has raised over \$1,000 for importing and restocking raccoons in the four years since it was organized. The club sponsors water races, treeing contests and drag races.



Jack Owens, club president Garland Tilson and warden Roy Smith are shown in the clubhouse with some of the trophies valued at over \$1000 which were awarded to winners in the fall events.





Edited by ANN PILCHER

### Ruritan Clubs Support Hunter Safety Instruction



Wardens Wilfong (left) and Udpikie instruct Turner Ashby High School students Billy Wise (second from left) and Ernest Harrison, Jr. (right) in the proper handling of guns.

Virginia Game Wardens Ronald E. Wilfong and Jesse K. Udpikie conducted a four-day session at the Turner Ashby High School, Dayton, with an enrollment of 306 boys. In an earlier course at Broadway High School, 240 boys were certified as safe hunters.

The instruction program conducted by the game wardens is sponsored by the National Rifle Association and the Virginia Commission of Game & Inland Fisheries, with local support from the Ruritan clubs. The students, by learning to know their guns and how to operate them properly and safely, will not only be safety-conscious hunters, but are assured a continued pleasure in the sport.

—ERNEST J. FOLDI, *Harrisonburg*

### Amherst Hunting Course Graduates

The 270 eighth graders at Amherst County High School who last fall completed a hunter safety course sponsored by the Amherst Rotary Club and the Commission of Game and Inland Fisheries are shown below in the high school auditorium. In front row middle are Coach Joe Procopio, Game Warden Robert Chenault, and Coach Allen Campbell, who with Gordon Preston, game warden of Franklin County, served as instructors.



### Dan River Student County Feed Patch Winner

Dennis Guill, a sophomore at Dan River High School, has been named winner of the 1968-69 Future Farmers of America feed patch contest in Pittsylvania County. Other winners were James B. Gregory III, of Chatham, and W. K. Pearson, of Gretna. Each of these received a cash prize awarded by the county chapter of the Izaak Walton League of America. Out-of-county judges were Game Commission biologists "Kit" Shaffer and Hal Myers.



Photo Courtesy *Danville Register*  
Dennis Guill (left), showing his winning wildlife feed patch to vocational agriculture teacher Lewis Motley.

Future Farmers from chapters of each of the county's six high schools participated in the planting. Bob Pollok, a vocational agriculture instructor at Dan River and FFA advisor, said young Guill already had received a hunting coat for winning the local chapter contest.

Pollok noted that several hundred Pittsylvania Future Farmers participated in the contest by seeding wildlife plots last spring, simultaneously leaving strips of small grain and peas to provide food and cover for quail, wild turkeys, rabbits and deer. The Dan River chapter alone prepared 75 plots, in addition to distributing a mixture of annual seeds to many farmers.

—P. J. MYERS  
*Pittsylvania Vo-Ag Coord.*

### Western Regional and State Winner



Courtesy *Franklin News-Post*, Rocky Mount

Ferrum Junior College freshman Charles Ellis and the trophy which brought him a blue ribbon and a four-power scope as first-place winner in the Game Commission's state-wide Big Game Trophy contest last November. The 8-point, 225 pound buck was killed near his home in Franklin County.

### Park Plaque Honors State Game Warden

In the Jack Todd Memorial Park, located on U. S. 250 west of Churchville, a plaque unveiled last November by the Staunton-Augusta County Chapter of the IWLWA, refers to the late Houston I. Todd (state game warden for more than 33 years) as conservationist, Waltonian, friend to man and wildlife. In the park's dedication address, Chester F. Phelps, Game Commission executive director, stated that "Through [Mr. Todd's] work, hundreds of persons are better prepared to understand and wisely use our wildlife and natural resources."

Staunton-Augusta IWLWA sponsored food patch winners flank plaque honoring warden Todd. From left: H. C. Wise, Robert Christian, C. L. Cash, Douglas Cheltree, Don Gum, Roger Coiner and Orvin Kiser.

Courtesy *The Staunton Leader*





# ON THE WATERFRONT



Edited by JIM KERRICK

## Preventive Maintenance for Saltwater Boaters

The pleasure-boat owner who prefers to use outboard or stern drive power for saltwater boating has some advantages over his powerboating counterpart who commands an inboard-equipped craft. His smaller boat is often more maneuverable, can frequent the shallows without fear of damaging the propeller and is readily trailered to some other boating site.

However, his propulsion equipment may be more vulnerable to corrosive attack due to constant exposure to water and atmosphere. The careful saltwater boater will take extra precautions to protect his investment.

### Outboard Preventive Maintenance

1. Some outboards are protected by an anodic plate fastened to the lower unit in some way. Replace before it is half-corroded away. This is necessary to maintain the protective function of this part. Never paint or place a coating on this or any other sacrificial metal part or its purpose will be defeated. If the hull has been coated with an anti-fouling paint containing copper or mercury compounds, the sacrificial metal part will corrode faster. Installation of an anti-corrosion system, such as Mer-Cathode, will provide maximum protection for all underwater parts.

2. Apply a recommended lubricant to exposed parts that must move freely. Protect the thumbscrew threads, reverse lock assembly and throttle, choke

Proper lubrication, as recommended by the engine manufacturer, is necessary to keep exposed moving parts in good working order. Lubricate the outboard motor swivel pin with anti-corrosion grease for greater protection from saltwater corrosion.



and shift linkages with anti-corrosion oil. Lubricate propeller shaft splines, tilt pin hinge and swivel pin with anti-corrosion grease. The owner's manual should describe a good lubricant. If in doubt, Quicksilver anti-corrosion grease and oil are particularly good for these applications.

3. Any outboard motor, when left on the transom and not in use, should be tilted out of the water.

4. Spray the entire powerhead with a coating of corrosion and rust preventive or wipe with a light coat of oil to protect the finish of all parts beneath the cowl.

5. Use an aluminum propeller when operating extensively in salt water. A bronze propeller will increase galvanic corrosion.

6. Protect the exterior surfaces by touching up chipped, scratched and worn surfaces frequently to prevent salt corrosion from dulling the finish.

7. Flush the engine with fresh water frequently. Even though the entire interior surfaces and water passages are treated to resist corrosion, there remains a possibility of a mechanical buildup of salt and silt deposits which no form of protective coating can prevent and which can be eliminated only by regular flushing with fresh water.

8. Disconnect the negative battery terminal (12-volt systems) when in dock or in storage for any lengthy period. It is also a good idea to keep the battery surface and terminals clean from corrosion deposits.

9. Watch out for stray electrical currents. Be sure accessories on your boat have a common ground. Other sources of stray electrical current are adjoining boats while moored and on-shore power connections.

10. Always follow the recommendations for saltwater operation and maintenance in the owner's manual for your particular model.

11. When storing your boat for the winter or for a long period of time, it is wise to follow recommended storage procedures. Not only will your motor be protected against internal and exter-

nal corrosion but also it will be ready to use next time you wish to go boating.

### Stern Drive Preventive Maintenance

All corrosion-prevention steps outlined for outboards are applicable to stern drives. However, allow for the difference in design in steps 1 through 4 as described below:

1. Some stern drive units, such as MerCruiser, are protected by two zinc-alloy metal parts: the trim tab on the anticavitation plate and a flat plate mounted at the base of the gimbal housing.

2. Protect exterior nut, bolt and screw threads and the reverse lock mechanism on the drive unit with anti-corrosion oil. Also apply this oil to the throttle, choke and shift linkage on the inside transom plate. Lubricate propeller shaft splines, tilt pin hinge and swivel pin with anti-corrosion grease.

3. The stern drive unit should remain in the water while the boat is moored. If the drive unit is tilted up, the trim tab will be unable to perform its protective function.

4. Spray the entire engine and inner transom plate with corrosion and rust preventive to protect the finish of all parts located in the engine compartment. The exterior of the drive unit also can be sprayed to prevent salt corrosion from dulling the finish.

Try a little tender loving care for your outboard or stern drive during the season. You'll increase your pleasure and save money to boot.

An occasional coating of corrosion and rust preventive will help keep saltwater corrosion from dulling the finish. The stern drive lower unit is usually underwater all the time the boat is afloat; therefore, it should receive an extra good coating.

Photos courtesy Kiekhaefer Corp.







*Bird*

*of the*

*Month:*

## *Purple Finch*

By DR. J. J. MURRAY  
*Lexington*

**W**HEN winter comes the purple finch is to be found all over Virginia, mostly from mid-October to early May. In the area near Washington it has occurred as early as August 23 and as late as May 29. It is more common as a transient in fall and spring. Only occasionally, however, does a winter pass without any in our state.

Arthur H. Fast banded 430 at Arlington in the winter of 1957-1958. An estimate of over 1,000 at Front Royal on October 13, 1957, was made by J. M. Abbott and D. Lamm.

The purple finch is about 6 inches long, from tip of bill to tip of tail. As Roger Tory Peterson has pointed out, the term "purple" in the name is not well chosen. The plumage is rather a rosy shade, a color seen particularly on the head, breast, and rump of the male. Females and immature males are brownish and heavily streaked. The bird has a heavy bill, suited to cracking seeds. The similarly colored but larger pine grosbeak is very much rarer in our state.

John Burroughs said that this bird looked as if it had been dipped in pokeberry juice. The great early ornithologist of America, Dr. Elliott Coues, wrote that the shade of red is

very variable, according to age, but is almost anything rather than purplish.

This bird is a winter visitor all over Virginia. In general, it is more common, however, in the state as one goes from east to west. It is fond of the berries of cedar, privet, and dogwood, and of leaf buds in spring. In its summer haunts it feeds on insects as well as fruit.

This bird nests sparingly in the higher parts of Highland County, where spruce occurs. I found a singing male on Middle Mountain on June 7, 1938; F. R. Scott found one there around June 21, 1948; and Scott and James Sydnor found a pair on June 11, 1949.

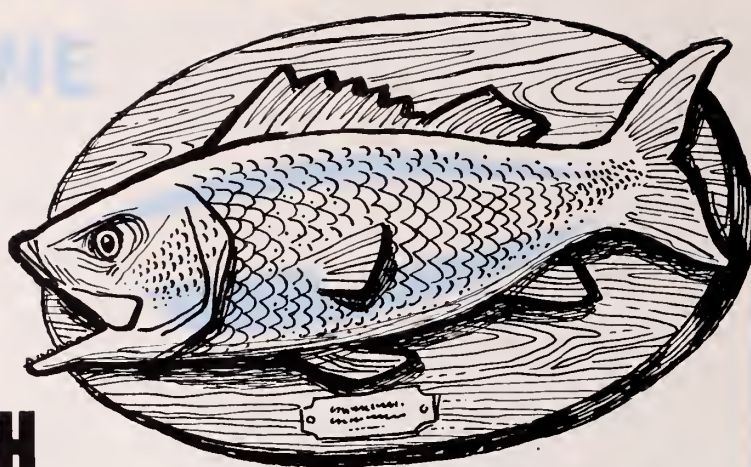
The nest, which I have not seen, is said to be like that of the familiar chipping sparrow. It is built of fine grasses and lined with hair. The female does most of the work on the nest, and then lays in it four or five eggs, pale green and lightly marked.

This is a sociable bird, usually going about in winter in small flocks. The song is a lovely warble, worthy of this brightly colored bird. It often sings as it flies.



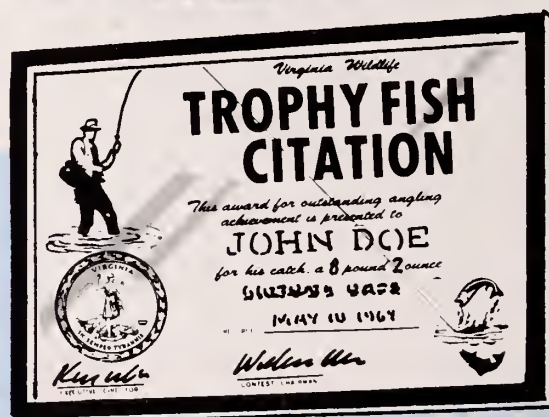
ALWAYS REMEMBER  
THAT BIG ONE

# with a VIRGINIA WILDLIFE TROPHY FISH CITATION . . .



## 1969 CITATION SIZES

Largemouth Bass	8 lbs.
Smallmouth Bass	4 lbs.
Kentucky Bass	3 lbs.
Sunfish	1 lb.
Rock Bass	1 lb.
White Bass	2 lbs.
White Perch	1 lb.
Crappie	2 1/2 lbs.
Striped Bass	10 lbs.
Pickrel	4 lbs.
Walleye	8 lbs.
Yellow (ring) Perch	2 lbs.
Brook or Brown Trout	2 lbs.
Other Trout	5 lbs.
Muskellunge	6 lbs.
Northern Pike	6 lbs.
Channel Cat	10 lbs.
Flathead Cat	20 lbs.
Carp	20 lbs.
Gar	10 lbs.
Grindley	10 lbs.



Fish must be caught in Virginia Waters by legal methods during seasons open for the taking of the species involved.

Fish must be weighed at a public scales that is periodically inspected by the Commonwealth of Virginia.

Photographs are desirable as further proof of authenticity but are not required.

Non-residents as well as residents are eligible for citations if fish are caught under the above conditions.

Applications must be submitted within 60 days of the date of catch to be eligible.

## APPLICATION FOR VIRGINIA FRESHWATER FISH CITATION

Angler's Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Kind of fish \_\_\_\_\_ Weight \_\_\_\_\_ lbs. \_\_\_\_\_ oz.; Length \_\_\_\_\_ inches  
 Where caught \_\_\_\_\_ Date caught \_\_\_\_\_  
 Weighed at \_\_\_\_\_ (store or other public scales)  
 Weighing witnessed by \_\_\_\_\_  
 Signature \_\_\_\_\_ Address \_\_\_\_\_  
 How caught—Fly Rod ☐ Spinning Rod ☐ Casting Rod ☐  
 Trot Line ☐ Other \_\_\_\_\_

COMMISSION OF GAME AND INLAND FISHERIES  
 P. O. BOX 1642 • RICHMOND, VIRGINIA 23213

HOW TO  
MEASURE:

